

SOFTWARE HELP

How can I collate workbooks without fuss?

Q I have a set of 52 spreadsheet files containing weekly data. I want to produce a single sheet showing trends over the year for about 40 selected cells. In other words, I want to produce a worksheet with one column per week and about 40 rows of data. I started by creating a list of the source spreadsheet filenames and imported that into a worksheet. The filenames are all in one column. Is there some Excel function or command I can use to transpose them into a row? I tried the TRANSPOSE function but must be using it wrongly, as I just get one output cell.

Once I've done this, I'll enter formulae into the first column to read the data from the Week 1 spreadsheet. I want to enter those formulae in such a way that I can then copy them into the other 51 columns and have them read the appropriate data. I believe the syntax involves using square brackets and the INDIRECT function.

If I were to copy the 52 individual files into worksheets of an annual workbook, would that make the formulae easier?

Paul M

A There are three separate problems here, of increasing difficulty. Transposing the data is easy enough. Select the column of data and choose Edit, Copy. Move one column to the right then choose Edit, Paste Special and pick the Transpose option. This will copy the data across the rows. You can then delete the first column of data.

Alternatively, you could use the TRANSPOSE function you mention. To use this, you need to select the range across the row where you want the transposed data to be copied, say from cell B1 to cell BB1. In the formula bar, you would type:

```
=TRANSPOSE($A$1:$A$52)
```

Instead of pressing the Enter key as you usually would, you'd need to hold down the Ctrl and Shift keys then press Enter, so all three keys were pressed at the same time. This tells Excel that you want to enter an Array formula. Array formulae are a special kind of Excel formula. They either perform multiple calculations to arrive at a single final value or they allow you to enter a formula in a range of cells with the same number of rows and columns as the array arguments.

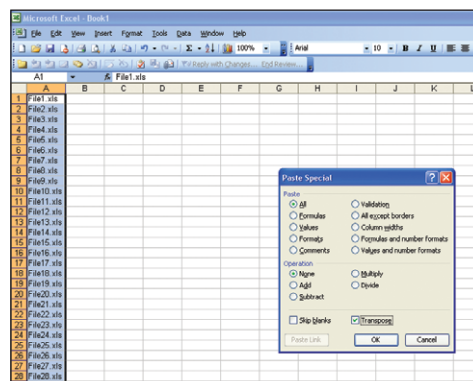
Having got your filenames in cells B1 to BB1, you can move on to the next part of your problem. You want to create formulae that use the filenames in row 1 to pull data from other workbooks. The most basic way to refer to cells in other workbooks is to enter a formula such as:

```
=[shopper.xls]Sheet1!B2
```

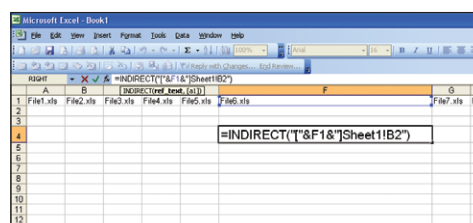
This would return the value in cell B2 on Sheet1 of the workbook called Shopper.xls. However, you want to get the name of the workbook from a cell on the spreadsheet. If a filename is in cell F1, say, you need a formula such as:

```
=F1]Sheet1!B2
```

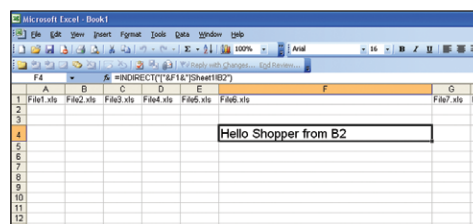
If you enter this formula, though, you'll soon see that it doesn't do what you want it to do. As you suspect, the



▲ Choose the Transpose option from Paste Special to copy columns to rows



▲ Use the Indirect function in Excel to put together a reference to data in another cell



▲ The result of the function returns whatever is in the cell being referenced

solution is to use the INDIRECT function. Enter the following formula:

```
=INDIRECT("'"&F1&"'Sheet1!B2")
```

This will pull in the value in cell B2 on Sheet1 of the workbook whose name is entered in cell F1 on the current sheet. If you copy this formula across the row, you will find that F1 becomes G1, H1 and so on, thereby referencing each of your files in turn. B2 is unchanged because it is contained in quotes.

Incidentally, you can place the INDIRECT function inside other functions:

```
=LEFT(INDIRECT("'"&F1&"'Sheet1!B2"),3)
```

This would get the left-hand three characters from cell B2 of the spreadsheet whose name is stored in cell F1.

Your final question is whether it would make life easier if you copied all 52 workbooks to individual worksheets of the same workbook. This is a tricky one to answer. Excel is happier working within a single workbook, so in that sense it would be easier. However, a 53-sheet workbook will be very large, and Excel might get into as much of a mess because of the amount of data with which you're working. We suggest that you stick with the separate workbooks and see how it goes. **KE**

YOUR EXPERTS

Contact Software Help for software advice and answers

Kay Ewbank

Database developer and productivity expert Kay Ewbank offers help with office applications.



Ben Pitt

Professional musician and photography enthusiast Ben Pitt gives advice on using creative software.



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How do I program a keyboard's function keys?

Q What is the point of the function keys labelled F1 to F12 on my keyboard? I once read they can be programmed to store phrases. This sounds useful, if true. I could store passwords and PINs, but I don't know if this would be safe. Perhaps my address and contact details could be assigned to a function key, saving me typing them every time they are required. But how do you program these keys?

David Griffiths

A The function keys are useful, but the way you use them varies depending on the application you are using. In the days before graphical applications, the function keys were used for the kinds of commands we now use menus for in Windows. Most modern software applications still use the function keys for quick access to actions that the software creators feel you are likely to want to carry out.

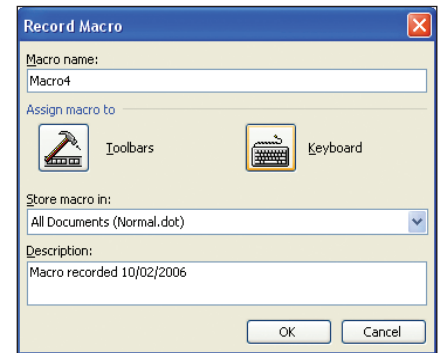
For example, in Microsoft Word, F2 is a quick way to move text or graphics; you select some text, press F2, then move the cursor and finally press Enter. In Microsoft Excel, F2 is the short cut for Edit. Some function keys are standard across all applications. F1 is nearly always a short cut to the Help function.

Many applications allow you to program the function keys. You could set up a function key in your word processor, so when it was

pressed your name and address details would be entered into your document automatically. To do this in Microsoft Word, choose Tools, Macro, Record New Macro. Select the option to assign the macro to the keyboard, and in the next dialog box press the function key you want to assign. Type your name, address and contact details, then stop the macro recorder. After doing this, you'll find that whenever you press the function key you chose, your name and address will be inserted into whichever document you are editing.

However, if you press the same function key in another application – such as your spreadsheet, for instance – you will not see your name and address appear. Either nothing will happen, or whichever action that program assigned to the function key will be triggered.

I don't recommend attempting to store passwords or PINs in any way that is easy for you to access. Other people would find access just as easy, and that would negate all the security offered by the passwords or PINs in the first place. If you find passwords difficult to remember, the solution is to change them to something that is difficult to guess but that you can remember. For example, you could create a password by taking the first letter from each word in a line of a favourite song and adding a digit where you'd have a comma. You might arrive at this password:



▲ Press the keyboard symbol to assign a macro to a key while recording a Word macro

WHTBSIST1OIMBH

This looks difficult to remember, until you sing in your head the line:

Where has tha been since I saw thee, On Ikley Moor baht hat

The 1 represents the comma. Such passwords are easy to remember and difficult to guess. Likewise, you should change your PIN to a number that means something to you, such as the first phone number you ever had. Most of us memorised our home phone number as children; it's probably a different number now so is unlikely to be guessed, but you can remember it easily. KE

Counting matching records in reports

Q I'm creating a report in Access to show how many staff have received performance-related bonuses in each department in the past month. I have 10 departments and the report should show, for instance, that the marketing department has had three people with performance bonuses. What type of query do I need to create?

Graham Chadwick

A You can create this report based directly on your table, with no need for an intermediate query, by applying a filter. View the data in the table showing the bonus information. Select one of the fields that identifies a bonus as being a performance bonus, then choose the menu option Records, Filter, Filter by selection. You will see all the records showing bonuses for other reasons disappear. You can then go on to create a report based on the filtered data by choosing an AutoReport from the New object button on the Toolbar.

The trouble with using a filter is that it's hard for an outsider to spot that data has been filtered. Six months down the line, you might have forgotten that you applied a filter to limit the records in the report. It would become just another 'we don't know how it works' item in your database.

For this reason, creating a query is better. Create a select query with the criterion that

Bonus Reason equals Performance, or whichever fields and values you're using. You also need to work out what you mean by 'the past month'. If you mean that the bonuses were awarded in the calendar month prior to the month in which you're running the report, the bonus date column needs a selection criterion of:

Month([bonus date])=Month(Now())-1

If you have a more complex definition of the past month, you need to apply that instead. Consider a criterion of:

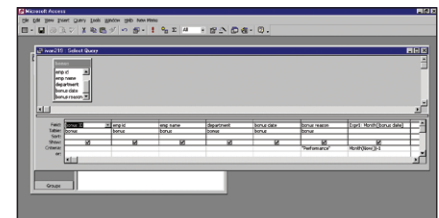
>=Now()-31

This returns all matches in the previous 31 days.

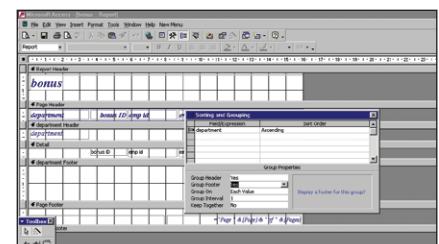
Having got your query to select the correct records, you can create a report based on it. Set it to be grouped by department. You need to choose Sorting and Grouping from the View menu. On the option for Group Footer, change the No to Yes. Back in the report design, put a text box in the group footer for the department. Set its caption to something appropriate such as 'Bonuses for this department'. The text box value needs to be set to:

=Count(*)

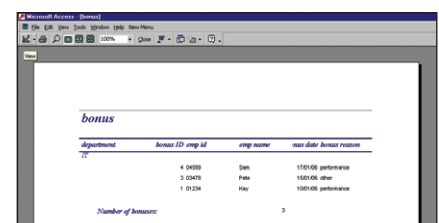
If you preview the report, you'll see you have a line after each department showing how many people were awarded bonuses. KE



▲ Set up the query to find the entries for the previous month



▲ Make the group footer visible in the report



▲ When you've added a =Count(*) entry to the footer, running the report will show how many people have performance bonuses

Music time lag with MIDI keyboard

Q I'm running Steinberg Cubase SE 3 with a Creative Audigy 2 ZS sound card and I often write tracks using VST instruments. This works fine when I start a new track, but as the mix gets more complex the instruments become unresponsive when I play them with a MIDI keyboard, sometimes to the point where they're unusable. Is there any way to avoid this?

Sam Boulton

A Audio latency, which is the time it takes for music software to react to the user's actions, is predominantly dictated by the choice and settings of the audio driver. ASIO drivers give the lowest latency. WDM is a reasonable alternative. DirectX can be OK, but isn't particularly reliable for music production in our experience. Multimedia or MME drivers are the standard Windows ones, which give high latency so they are best avoided. The Audigy 2 ZS has an ASIO driver, so if you haven't already, select it under Cubase's Devices menu, Device Setup, VST Multitrack.

The next step is to check the ASIO buffer setting. Although music software deals with continuous streams of music, internally it works with small chunks of a few milliseconds in length. The exact size of these chunks determines the amount of latency, so choosing lower values makes software instruments respond more quickly to MIDI performances. However, setting the buffer too low can cause audible glitches, or you may find that you can't run as many plug-ins. Some experimentation is necessary to find your system's most

appropriate setting. As a rough guide, 10ms is usually fast enough to make software instruments feel responsive while keeping the software running smoothly. Adjust this setting by clicking the Control Panel button just below where you chose the driver type.

From your description of the problem, you've probably got this far by yourself. The fact that latency becomes an increasing problem as your track becomes more complex suggests an issue connected to plug-in delay compensation (PDC). As the various audio streams in a mix are routed through effect plug-ins, each plug-in adds a small delay to the stream, which causes different streams to run out of sync. PDC compensates for these delays by getting a head start on heavily processed streams, keeping everything tightly synchronised when it appears at your speakers.

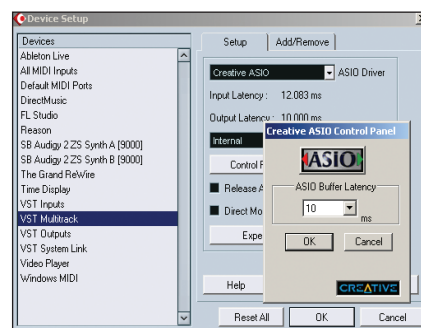
PDC is great for producing tight-sounding mixes, but the downside is that when you hit Play, the software has to process and buffer extra audio before it can start playing everything back in time. Live MIDI performances can't be buffered, as the software can't pre-empt what you're about to play. As a result, VST instruments sound late when you play them.

Fortunately, Cubase provides an easy workaround. A dedicated button temporarily disables PDC for exactly this purpose; see the screenshot above right for details. This might solve your problems in a single shot. You might also need to switch off any insert plug-ins applied to the VST instrument's mixer channel, as there's no avoiding the delay to the instrument's output these will cause.

Ableton Live users might experience the same problem and they too can get around it by temporarily disabling Delay Compensation from



▲ Cubase SE 3's Constrain Delay Compensation button (circled) switches between better overall timing and making software instruments more responsive



▲ The audio driver and buffer size are specified in the Device Setup dialog box

the Options menu. However, to work around plug-ins applied directly to VST instruments, it's necessary to remove them completely rather than just deactivate them. To avoid losing their settings, simply drag the plug-ins across to a spare channel for safekeeping. **BP**

Changing date stamps on digital photos

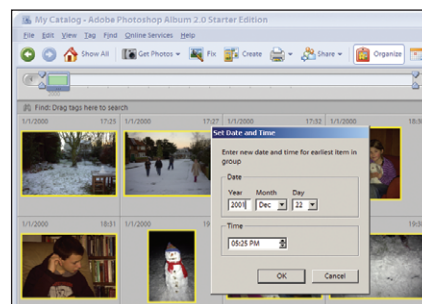
Q I've just started using iView Media to organise my digital photos, but although the ability to sort by date seems useful, lots of my pictures claim to have been taken in January 2000. My camera defaults to this date if it's left uncharged for a few weeks and I don't always get around to setting it again. iView Media has a function for changing the date, but working out and setting the correct one for each photo is laborious. Is there a quicker method?

Marcus Vaughan

A All Windows files have Created, Modified and Accessed dates attached to them, but these aren't particularly reliable; simply copying a file gives the copy a new Created date. Therefore, photo-management software uses capture dates embedded in JPEG files as part of their EXIF metadata. This data also includes information about the camera model, shutter speed, aperture and so on. However, a wrong date on your camera leads to incorrect metadata, while scanned conventional photos have no metadata at all. Happily, there's an easy way to fix both.

iView Media's function for changing the capture date isn't so good for fixing batches of photos. When you change them en masse, it assigns them all to a single point in time, thus losing the chronological sequence of the batch. We recommend using Adobe Photoshop Album Starter Edition, available for free download from www.adobe.co.uk and also on this month's cover disc. Its photo management and cataloguing options aren't as sophisticated as those provided by iView Media, but it handles capture-date manipulation very effectively.

Using Windows Explorer, find a single batch of images that were taken around the same time (hopefully they'll be in a folder together) and import them by dropping them on to the software. The date and time will be displayed for each photo, and you'll probably find that even though the dates are wrong their order still makes sense, perhaps starting on 1st January 2000 and going up to 5th January. To correct the dates while keeping this chronology intact, first work out the correct date of the oldest one. Examining the original file's Date Modified might help if your powers of memory or intuition don't bear fruit; this is shown in the left-hand column when you select the file in Explorer.



▲ Adobe Photoshop Album makes it easy to shift the capture date of groups of photos

Back in Photoshop Album, select all the images by typing Ctrl-A, right-click one and select Adjust Date and Time of Selected Items. Choose Shift to new starting date and time, and enter the first picture's date. The rest of the batch of photos will update too, offset by the difference in time from the first photo. You can delete these photos from Photoshop Album, being careful not to select Also delete selected items from the hard disk, and import the next batch of photos that need fixing. When you've done that, re-import the fixed photos into iView Media so they are correctly recognised. **BP**



Splitting columns in Excel

Q I am sometimes given staff lists in which, for instance, a column contains both employee number and surname, such as 01234 Jones. I would like an easy way to turn this into two columns, which could then be sorted individually, but the names would not have the same number of letters. I'm using Excel.

Frank Hobson

A There are various ways to split values into columns. Excel itself is remarkably good at working out where column splits should occur. If you highlight the region you want to split, and from the Data menu choose Text to Columns, Excel will guide you through the stages of separating your information.

The first question you'll be asked is how the different areas of data are delimited. Data could be separated by a character such as a comma or a tab character, or it could be arranged in fixed-width columns. In your case, as long as the employee number always has the same five-digit format, the first column has a fixed width. Once you've chosen the way the data is delimited, you're shown Excel's guess at how it should be split. If this isn't what you

want, you can move the splits to better suit your requirements.

The next questions ask which type of data your columns hold. This is important if you have date and time information, for example. It's also important that the employee number column is treated as text rather than general data. If not, it will be treated as a number and any leading zeros will be discarded, so 01234 will be rendered as 1234. You can specify the data type for each column that needs it. Once you're happy, press Finish. Your data will be split into multiple columns or, in your case, just two.

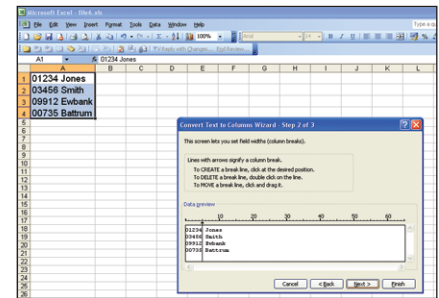
If your data was a bit more complex, things would be harder. Say, for example, you had three columns such as:

01234 Jones Peter

Or even this:

Jones 01234

We couldn't use the Text to Columns option, because the data isn't in fixed width columns; while you can expect to have an employee ID number of a specific length, you can't expect people to have fixed-length surnames.



▲ Use Excel's Data, Convert to Text wizard to split columnar data

We need a way to find the position of spaces in the data. This was covered in *Nigel Knowitall*, *Shopper* April 2006. The formula for extracting the first word in a text string in A1 would be:

```
=IF(ISERR(FIND(" ",A1)),A1,LEFT(A1,FIND(" ",A1)-1))
```

The formula for extracting the last word is:

```
=RIGHT(A1,LEN(A1)-FIND(" ",SUBSTITUTE(A1," ", ""),LEN(A1)-LEN(SUBSTITUTE(A1," ", "")))) KE
```

Resetting auto-numbering in Access

Q I've been developing a database and during testing have entered lots of fake records. I want to use the database for real, so I need to get rid of all the fake records. If I delete the records, my auto-numbering ID fields show a gap, so instead of the employee ID starting at 0001, say, it starts at 0015. Is there a way to get rid of the records in such a way as to make it seem as if they never existed?

Ralph Henderson

A There are several ways to overcome your problem, but it's probably simpler to ignore the missing numbers if you can. If it is essential that records are numbered in an unbroken sequence,

using an AutoNumber field is plagued with problems. As you've already discovered, if you delete a record, the AutoNumber field will create a gap. Even if a user starts to enter a record, changes their mind and cancels the update, the AutoNumber field will still have been incremented and a gap will result. Many database designers avoid AutoNumber fields; I use them, but only when an unbroken sequence isn't essential. You can't use the highest number in an AutoNumber field as a quick way to work out how many employees (or whatever) you have; you have to create a query that shows the Count of the records in its Totals line.

With these caveats in mind, here are some ways that you can get rid of your initial 'missing' record numbers.

The first thing you can do is close the database after you've deleted all your records, and choose Compact and Repair from the Tools menu. If you compact the database, you'll find autonumbering starts again from the beginning. The disadvantage of this method is that you have to give a new name for the compacted copy of the database.

The next option is to make a copy of the table. When you've deleted your test records, close the table and from the main database window choose Edit, Copy, Edit, Paste. You'll be offered several ways to copy the table; choose Structure Only. You'll be asked for a new name for the copy of your table. After picking a name, you can delete the original table and rename the new table with the original name. **KE**

Sybase SQL database errors

Q I've got a problem with an old Sybase SQL database constantly dumping to a .dmp file. This is accompanied by the error message:

"Dumping server state to file -- First packet of message not sequence 0"

What could be the reason for this message? Is there any way that I can stop the database server writing to the .dmp file? It writes to it every 30 seconds (around 30KB at a time). We'd rather the database did its normal job while we investigate, and not attempt

any dumping. Is there a switch that will stop it?

Joe D Marsh

A The reason this error message occurs is usually a problem with the dbclient process on one of the client computers. Often it's a problem with a network card. Try getting the users to shut down their dbclient processes. Get everyone off the system, then let them log on one at a time until the messages start appearing again. Alternatively, log people off one at a time until the messages stop appearing. You should then be able to identify the computer

that's causing the problem, and you'll be able to investigate what's going on more closely.

As far as I know there's no way to stop the dump file being created, and in most circumstances you wouldn't want to because it helps you work out what's going wrong. Not seeing the errors doesn't stop them occurring, and there will probably be information in there that you'll want to see at some point. Rather than ignoring the problem, you're better off solving it, then the dump file won't be created. Of course, it's very irritating to have the dump file constantly interrupt you trying to sort the problem, but it is doing its best to help. **KE**